

# Dr. Robert Hill

- Ph.D. in Nuclear Engineering - Purdue University
- Argonne National Laboratory for ~35 years
  - Manages Argonne Advanced Nuclear Energy Research and Development
  - Research focuses on reactor physics, fast reactor core design, plutonium disposition, and waste management.
  - Previously led research groups working on reactor physics analysis, advanced modeling and simulation, fuel cycle and systems dynamics modeling, criticality safety, and nuclear data
- Technical Director of the Generation-IV International Forum (OECD NEA)
- 15 years as National Technical Director for multi-Laboratory advanced reactor R&D activities in DOE Programs
  - Small modular reactors, advanced structural materials, energy conversion technology, safety and licensing, and system integration.
- Co-Lead for multi-laboratory Advanced Demonstration and Test Reactor Study

# Fusion Pilot Plant – lessons from fission experience

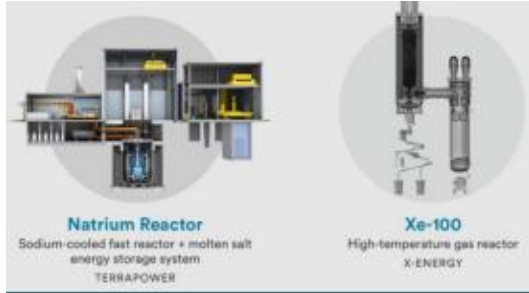
- Multiple studies enroute to development of the Versatile Test Reactor Program and the ARDP including Advanced Demonstration and Test Reactor Study
- A wholistic R&D approach in fission enterprise
  - NRIC/GAIN for industry interface
  - Reactor Concepts RD&D (~\$200M FY21)
  - Advanced Fuels Program (~\$300M FY21)
  - Nuclear Energy Enabling Technologies (~\$125M FY21)
- Potential crossover in approach
  - Community assessment of technology readiness and pilot program requirements in partnership with industry
  - No early down-selection - examine multiple inertial and magnetic confinement options
- Different technology readiness dictates greater early emphasis on research and technology maturation for critical systems
  - Plasma facing components (dealing with heat flux)
  - Divertor
  - Blanket/Tritium management systems

Advanced Reactor  
Demonstration Program  
(ARDP) (~\$250M FY21)

# Advanced Reactor Demonstration Program

- **Advanced reactor demonstrations**

- Supports development of a fully functional advanced nuclear reactor within 7 years of award



- **Risk reduction for future demonstrations**

- Supports teams resolving technical, operational, and regulatory challenges to prepare for future demonstration opportunities



- **Advanced reactor concepts**

- Supports innovative and diverse designs with potential to commercialize in the mid-2030s

